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The Bufferboard™

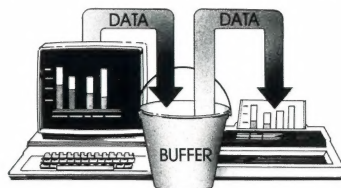
For Apples and Printers

IS YOUR PRINTER HOLDING YOUR APPLE® PRISONER?

Orange Micro's Bufferboard™ is designed for Apple owners who already own a printer and printer interface, and desire buffering. The Bufferboard frees your Apple by storing up to 64K of memory, so you can process while you print. The Bufferboard is a Centronics compatible parallel printer buffer designed exclusively for the Apple II, II+, IIe and III. The Bufferboard comes standard with 16K of memory, and additional memory chips are available to increase buffering capacity to 32K or 64K. With 64K, the Bufferboard stores 20 full pages of text.

Your Apple computer can output up to 3000 characters per second. Unfortunately, most printers are only capable of printing 80–150 characters per second. With the Bufferboard, your Apple will output at its full speed, nearly 30 times the speed of your printer.

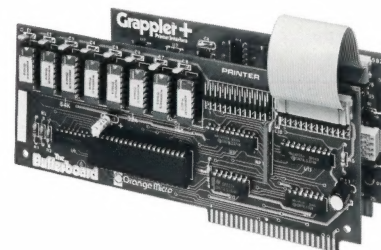
The Bufferboard accomplishes this by storing an instantaneous “bucketful” of print data from your computer. Then it feeds the data to your printer at its own printing rate. Your Apple is set free from driving your printer and is ready for more data from you.



Thanks to the Bufferboard, your system is now operating at its maximum speed and efficiency. You can continue your data processing while your printer finishes the previous job.

**WITH THE BUFFERBOARD YOU CAN
KEEP YOUR CURRENT INTERFACE.**

The Bufferboard is used in conjunction with most all popular printer interface boards. There are versions for the Grappler/Grappler + , Epson Interface, and Apple or Apple equivalent interfaces. Installing the Bufferboard is made easy by the Bufferboard's unique Interface Docking System. In 30 seconds the Bufferboard fits right into your Apple and "docks" onto your printer interface. A single hook-up is all that's required; no bulky or expensive power supplies are needed.



All Bufferboard features are controlled by its own unique on-board micro controller, including the Bufferboard's automatic memory configuration. This feature eliminates the need to change switch setting when additional chips are installed. Also, the Bufferboard is equipped with its own built-in RAM Diagnostic Self Test, which alerts the user of any abnormal conditions related to the memory chips.

The Bufferboard. The most convenient and economical way available to add buffering to your current Apple system.

Give your Apple the freedom to reach its full computing potential. Give your Apple the Bufferboard.

The Grappler +TM
Printer Interface

Grappler +

Grappler +

Grappler +

Grappler +

BUFFERED Grappler +TM

Bufferboard

Bufferboard

Bufferboard

Bufferboard

Bufferboard

The BufferboardTM

For Apples and Printers

THE ORANGE MICRO FAMILY OF INTERFACE CARDS

ORANGE MICRO: THE INNOVATORS

The original GRAPPLER was revolutionary. It was the first interface card providing easy graphic screen dumping for the Apple II/II+ /IIe/III* computers. Commanded by simple control codes, the GRAPPLER eliminated the need for software. With the introduction of the **GRAPPLER +**, Apple users were given the freedom of on-board printer selection. A quick dip switch setting now allows interfacing to most popular dot matrix printers.

THE NEW BUFFERED GRAPPLER +

ORANGE MICRO has taken the GRAPPLER + one step further with the new BUFFERED GRAPPLER +. The BUFFERED GRAPPLER + adds 16K of printer buffering to the most advanced interface available, and is easily expandable to 32K or 64K. Buffering saves you time. It frees your Apple by rapidly storing print data, then sending it to your printer at its own printing rate. Your Apple is immediately ready and waiting for its next task. All features of the standard GRAPPLER + are included on the BUFFERED GRAPPLER +.

IDS COLOR PRINTING CAPABILITIES

In addition to the standard GRAPPLER + and the BUFFERED GRAPPLER +, there is a third version designed specially for the IDS printer series. This GRAPPLER + is plug compatible with the IDS 460, 560, Microprism 480, Prism 80 and Prism 132. For Prisms with the color option installed, all graphic functions can be performed in full color.

23 COMMANDS IN ALL

All versions of the GRAPPLER + allow graphics to be printed inverted, double-sized, and rotated 90°. ORANGE MICRO'S exclusive DUAL HI-RES GRAPHICS is also standard, allowing simultaneous reproduction of HI-RES pages 1 and 2. Text commands include screen dumps, setting of margins and page length, auto skip-over-perforation and word wrap around. Also, our MIXED MODE SCREEN DUMP will print both text and graphics together.

All GRAPPLER + versions are compatible with virtually all Apple software and work with PASCAL, CP/M, and LOGO. A software driver is available for use with the Apple III computer.

ORANGE MICRO...leading the way in freedom of choice by offering the interface to meet your needs. The revolution continues.

*Apple III requires software driver.

**Buffered Grappler + not designed for Apple III.

*Requires additional software driver.

**May require graphic upgrade

The Grappler + Printer Interface

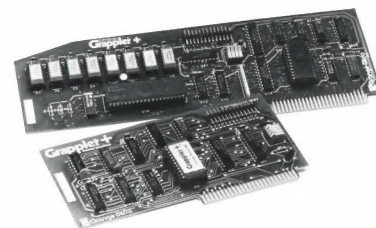
Versions Now Available With Buffering And Color Screen Dump Capabilities!

GRAPPLER + STANDARD FEATURES INCLUDE:

- Dual Hi-Res Graphics • New 80 Column Text Dump (for IIe) • Keyboard or programmed graphic screen dumps (Pg. 1 or 2) • Dip switch for printer brand selection • Apple III® Compatible* • Mixed Mode Screen Dump • Dual Text Screen Dump • Inverse Graphics • 90° Rotation • Double Size Graphics • Automatic skip-over-perf • Left and Right Margins • Variable Line Length • Text Screen Dump • Emphasized Graphics

THE GRAPPLER + WORKS WITH THE FOLLOWING PRINTERS:

- Anadex • Apple Dot Matrix • Centronics • C.Itoh ProWriter • Epson Series** • IDS 460, 560 Prism 80, 132, Microprism 480 • NEC 8023 • Okidata Series** • PMC DMP-85, Star Gemini Series, and Future Printers.



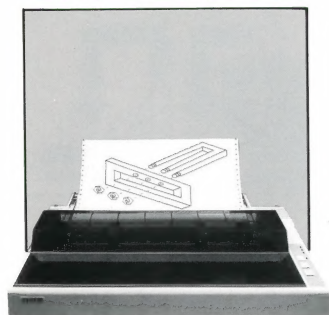
ADDITIONAL BUFFERED GRAPPLER + FEATURES:

- 16K Buffer Standard • Upgradeable to 32 or 64K • Automatic Self Test • Automatic Memory Configuration • Includes all Grappler + Standard Features*

IMAGINE IT...



CAPTURE IT!



GRAPHIC COMMANDS

CONTROL-IGM—Prints mixed text and graphics.

CONTROL-IGS—Activates dual hi-res graphics. Prints hi-res page 1 and 2 side by side.

CONTROL-IG—This must precede all graphic commands. If no option follows, every white dot on the Apple screen (Page 1) is printed as a black dot on the page. The image will also be centered on an 8½ inch page.

CONTROL-IG2—Prints Page 2.

CONTROL-IGD—Prints the image double sized. Each dot on the Apple screen will be printed as four dots by the printer. (2 high and 2 wide)

CONTROL-IGI—Prints the image inverted. Every black dot on the screen is printed as a black dot on the page.

CONTROL-IGR—Prints the image rotated 90° in a clockwise direction.

CONTROL-IGL—Prints the image at the left margin previously set using the left margin text command. (See CTRL INL) This enables graphics to be printed anywhere on the page.

CONTROL-IGE—In this mode the printer will print two closely spaced dots for every one dot normally printed, resulting in a denser graphic image. This option is available on all Epson models, Apple Dot Matrix, NEC 8023, C.Itoh ProWriter, and DMP-85.

Grappler + graphic commands may be added together to perform numerous features simultaneously. For example:

TEXT COMMANDS

CONTROL-I8S—Duplicates the Apple IIe 80 column text screen on the printer.

CONTROL-ID—Allows side by side printing of page 1 and page 2 text.

CONTROL-IU—Allows machine language jump to user routine in RAM. For advanced programmers, this enables programs to be created with the Grappler +.

CONTROL-I CONTROL-Y—Changes prefix commands from Control I to Control Y. All subsequent Grappler + commands are then accessed with Control Y. Any control character may be used.

CONTROL-Y CONTROL-I—Changes the prefix command back to a Control-I.

CONTROL-InL—Sets left margin to the nth column.

CONTROL-InR—Sets right margin to the nth column. This command prevents words from being split by ending the line at the last space before the right margin.

CONTROL-InP—Sets page length to n lines. After printing n lines, the printer will print six blank lines. This can be used as a skip-over-perforation function.

CONTROL-InN—Sets line length to n characters. This command transmits characters only to the printer, not to the screen.

CONTROL-II—Transmits characters to both the Apple screen and printer.

CONTROL-IS—Duplicates the present text screen to the printer. This command is accessible only from BASIC or machine language.

CONTROL-IH—Allows the high order (8th) bit to be output to the printer. This is required to print special character sets with Okidata, Epson, Apple Dot Matrix, NEC 8023, C.Itoh ProWriter, and DMP-85.

CONTROL-IX—Turns off the high order (8th) bit.

CONTROL-IA—Appends line feeds onto carriage returns.

CONTROL-IK—Doesn't append line feeds onto carriage returns.

*Not designed for Apple III.